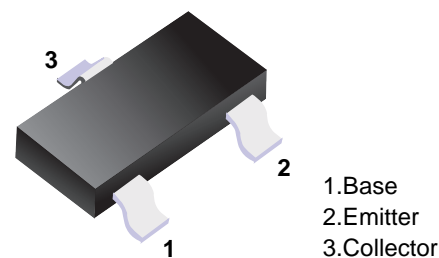


## PNP Transistors



### ■ Features

- Collector Current Capability  $I_c=150\text{mA}$
- Collector Emitter Voltage  $V_{CE0}=-50\text{V}$
- Compliments the 2SC2412

### ■ Simplified outline(SOT-23)

### ■ Absolute Maximum Ratings $T_a = 25^\circ\text{C}$

Parameter	Symbol	Rating	Unit
Collector - Base Voltage	$V_{CBO}$	-60	V
Collector - Emitter Voltage	$V_{CEO}$	-50	
Emitter - Base Voltage	$V_{EBO}$	-6	
Collector Current - Continuous	$I_c$	150	mA
Collector Power Dissipation	$P_c$	200	mW
Junction Temperature	$T_J$	150	$^\circ\text{C}$
Storage Temperature range	$T_{stg}$	-55 to 150	

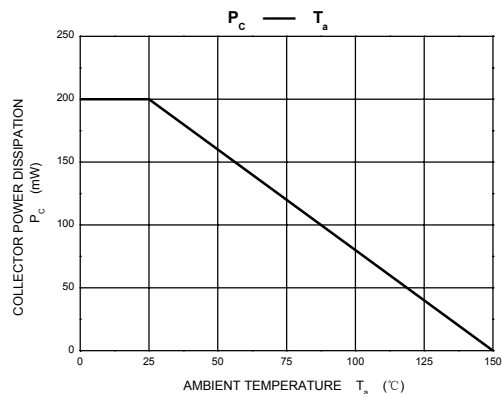
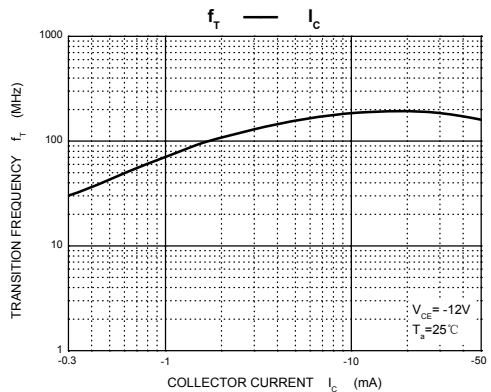
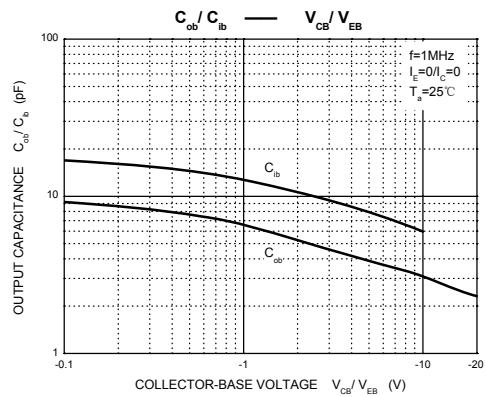
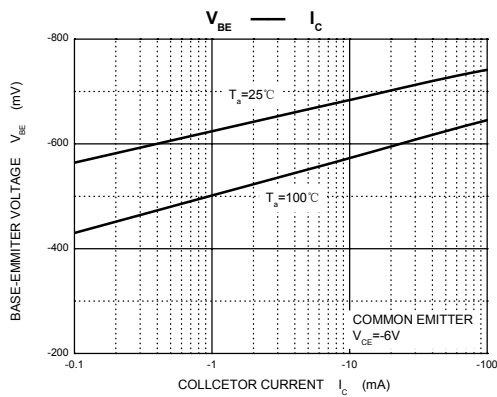
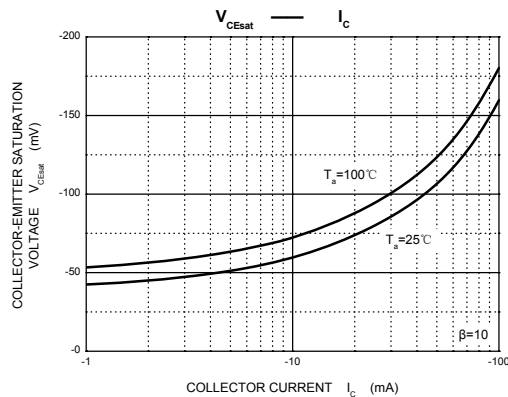
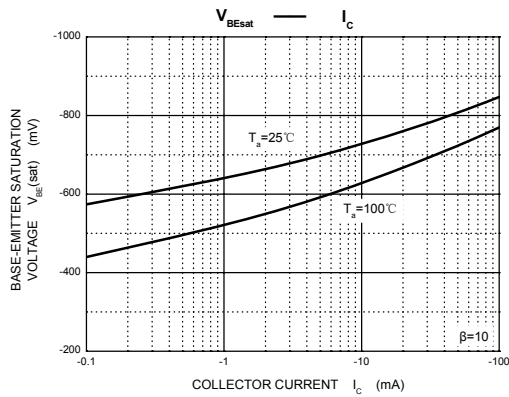
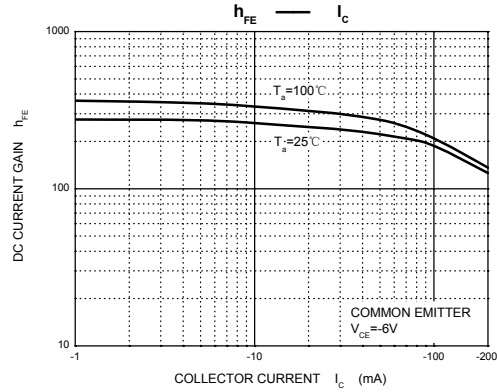
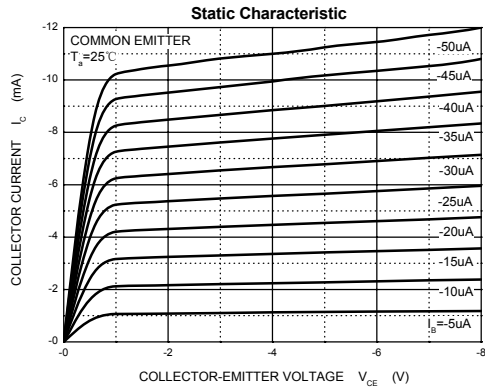
### ■ Electrical Characteristics $T_a = 25^\circ\text{C}$

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Collector- base breakdown voltage	$V_{CBO}$	$I_c = -50 \mu\text{A}, I_E = 0$	-60			V
Collector- emitter breakdown voltage	$V_{CEO}$	$I_c = -1 \text{mA}, I_B = 0$	-50			
Emitter - base breakdown voltage	$V_{EBO}$	$I_E = -50 \mu\text{A}, I_C = 0$	-6			
Collector-base cut-off current	$I_{CBO}$	$V_{CB} = -60 \text{V}, I_E = 0$			-0.1	$\mu\text{A}$
Emitter cut-off current	$I_{EBO}$	$V_{EB} = -6\text{V}, I_C = 0$			-0.1	
Collector-emitter saturation voltage	$V_{CE(sat)}$	$I_C = -50 \text{mA}, I_B = -5\text{mA}$			-0.5	V
Base-emitter saturation voltage	$V_{BE(sat)}$	$I_C = -50 \text{mA}, I_B = -5\text{mA}$			-1.2	
DC current gain	$h_{FE}$	$V_{CE} = -6\text{V}, I_C = -1\text{mA}$	120		560	
Collector output capacitance	$C_{ob}$	$V_{CB} = -12\text{V}, I_E = 0, f = 1\text{MHz}$		4	5	pF
Transition frequency	$f_T$	$V_{CE} = -12\text{V}, I_C = -2\text{mA}, f = 30\text{MHz}$		140		MHz

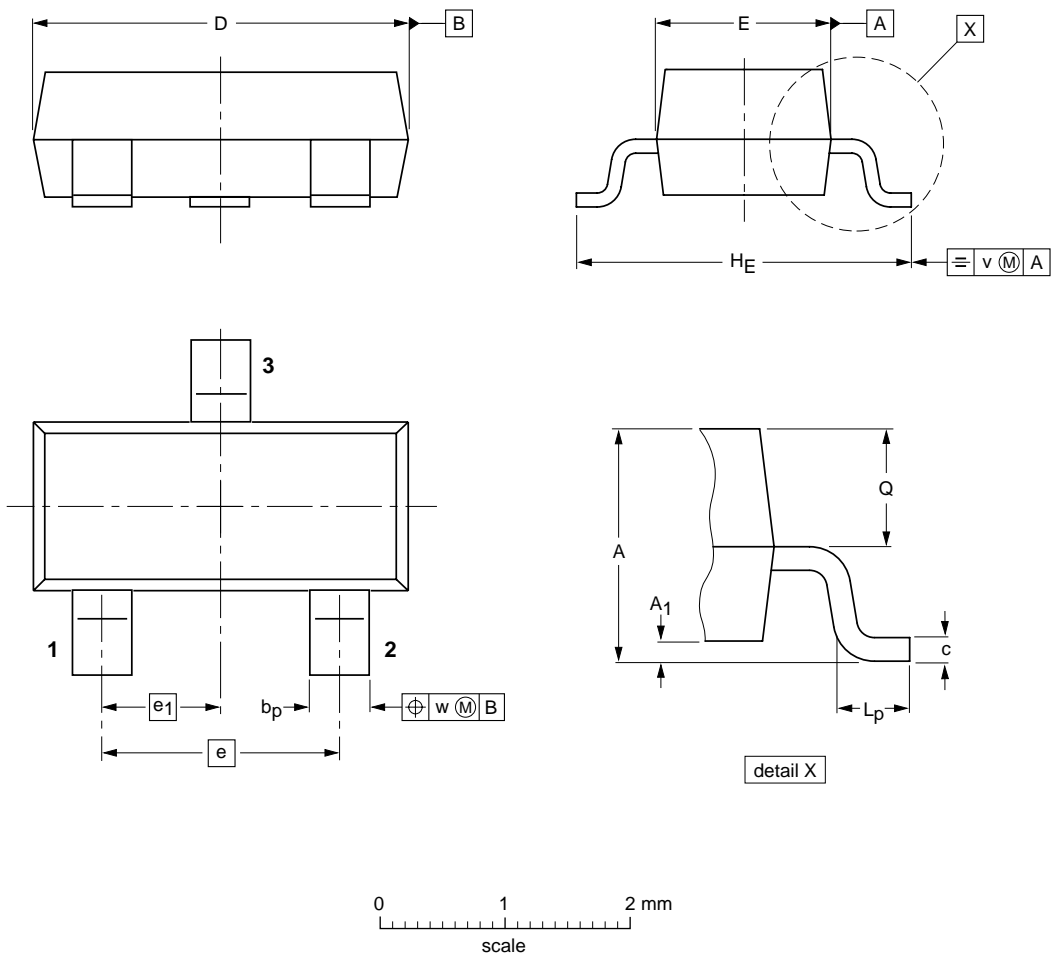
### ■ Classification of $h_{fe}$

Type	2SA1037-Q	2SA1037-R	2SA1037-S
Range	120-270	180-390	270-560
Marking	FQ	FR	FS

■ Typical Characteristics



■ SOT-23



**DIMENSIONS (mm are the original dimensions)**

UNIT	A	A <sub>1</sub> max.	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w
mm	1.1 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1